

Task 4: Risk Identification and Analysis

Cost-Benefit Analysis and Feasibility Study for Acquisition of SR 133 from Coast Highway to El Toro Rd

City of Laguna Beach**Cost-Benefit Analysis and Feasibility Study for the Acquisition of SR 133 from Coast Highway to El Toro Road****Task 4: Risk Identification and Analysis**

The purpose of this task is identify and document potential risks to the City of Laguna Beach's acquisition of SR 133 (Laguna Canyon Road) and risks to improvement projects planned for SR 133.

All risks of the City acquiring the roadway and undertaking planned improvement projects are included in this analysis, including those risks to the City as well as to City residents and the community . Many identified risks of planned improvement projects would also apply if the State of California, rather than the City of Laguna Beach, were to undertake the improvement projects.

Identified risks are grouped in the following categories:

- Improvement Project Disbenefits
- Political Risks
- Design and Construction Risks
- Ownership Risks
- Utility Risks
- Roadway Condition Risks
- Cost Risks

Risks are assessed qualitatively along two dimensions and plotted on "heat maps" along both of these dimensions:

- Probability
- Impact

The heat maps utilize the following five classifications of Probability and Impact risk:

- VH** Very High
- H** High
- M** Medium
- L** Low
- VL** Very Low

The '*Risks*' worksheet lists, categorizes, describes, and plots each identified risk. The '*RiskSummary*' worksheet plots all risks on one unified heat map.

For example, Roadway Flooding is assessed to be a risk of high magnitude and medium risk.

This information, paired with the expected costs and benefits, will provide the City Council with a wide range of information that they can utilize in the decision-making process.

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Risk Category		Risk Name	Risk Description	Evaluation							
Improvement Project Disbenefits	A	Safety Disbenefits	<p>Larger or more plentiful street trees along Laguna Canyon Road could become crash hazards, posing a safety risk.</p> <p>For additional detail on this project disbenefit risk, see <i>Task 2: Benefit Identification and Quantification</i>, Section 3.2.1.</p>	PROBABILITY	VH	Yellow	Orange	Red-Orange	Red	Dark Red	
					H	Light Green	Yellow	Orange	Red-Orange	Red	
					M	Green	Yellow-Green	Yellow	Orange	Red-Orange	
L	Light Green	Green	Yellow-Green		Yellow	Orange					
VL	Green	Light Green	Green		Yellow-Green	Yellow					
				IMPACT							
				VL	L	M	H	VH			
Improvement Project Disbenefits	B	Corridor Aesthetic Disbenefits	<p>Extended sidewalks, curb and gutter, and bicycle lanes could impact the rural aesthetics of the corridor.</p> <p>For additional detail on this project disbenefit risk, see <i>Task 2: Benefit Identification and Quantification</i>, Section 3.1.4.</p>	PROBABILITY	VH	Yellow	Orange	Red-Orange	Red	Dark Red	
					H	Light Green	Yellow	Orange	Red-Orange	Red	
					M	Green	Yellow-Green	Yellow	Orange	Red-Orange	
L	Light Green	Green	Yellow-Green		Yellow	Orange					
VL	Green	Light Green	Green		Yellow-Green	Yellow					
				IMPACT							
				VL	L	M	H	VH			
Improvement Project Disbenefits	C	Travel Time Disbenefits	<p>Changes to crosswalks, traffic control measures, traffic signals, and speed limits along Laguna Canyon Road could slow travel and increase average travel times.</p> <p>For additional detail on this project disbenefit risk, see <i>Task 2: Benefit Identification and Quantification</i>, Section 3.1.2.</p>	PROBABILITY	VH	Yellow	Orange	Red-Orange	Red	Dark Red	
					H	Light Green	Yellow	Orange	Red-Orange	Red	
					M	Green	Yellow-Green	Yellow	Orange	Red-Orange	
L	Light Green	Green	Yellow-Green		Yellow	Orange					
VL	Green	Light Green	Green		Yellow-Green	Yellow					
				IMPACT							
				VL	L	M	H	VH			
Political Risks	D	State Agency Cooperation	<p>The City's acquisition of Laguna Canyon Road will require cooperation with state agencies, which is not certain.</p>	PROBABILITY	VH	Yellow	Orange	Red-Orange	Red	Dark Red	
					H	Light Green	Yellow	Orange	Red-Orange	Red	
					M	Green	Yellow-Green	Yellow	Orange	Red-Orange	
	L	Light Green	Green		Yellow-Green	Yellow	Orange				
	VL	Green	Light Green		Green	Yellow-Green	Yellow				
					IMPACT						
					VL	L	M	H	VH		
	Political Risks	E	Community Engagement	<p>Community engagement and buy-in will be necessary to make the acquisition of Laguna Canyon Road and potential improvement projects a success. A lack of community engagement and agreement could endanger these projects.</p>	PROBABILITY	VH	Yellow	Orange	Red-Orange	Red	Dark Red
						H	Light Green	Yellow	Orange	Red-Orange	Red
M						Green	Yellow-Green	Yellow	Orange	Red-Orange	
L	Light Green	Green	Yellow-Green	Yellow		Orange					
VL	Green	Light Green	Green	Yellow-Green		Yellow					
				IMPACT							
				VL	L	M	H	VH			
Political Risks	F	City Stakeholder Agreement	<p>All relevant stakeholders within the City of Laguna Beach must come to agreement on acquisition and project terms.</p>	PROBABILITY	VH	Yellow	Orange	Red-Orange	Red	Dark Red	
					H	Light Green	Yellow	Orange	Red-Orange	Red	
					M	Green	Yellow-Green	Yellow	Orange	Red-Orange	
L	Light Green	Green	Yellow-Green		Yellow	Orange					
VL	Green	Light Green	Green		Yellow-Green	Yellow					
				IMPACT							
				VL	L	M	H	VH			

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Risk Category	Risk Name	Risk Description	Evaluation							
Design and Construction Risks	Ⓒ Design Uncertainties	<p>Potential improvement projects along Laguna Canyon Road have not yet been fully designed. This uncertainty increases the risk of project cost and scope overruns. Design uncertainty risk is especially pronounced south of Canyon Acres Drive, which was not considered in the Project Study Report (PSR).</p> <p>Project design uncertainty represents a risk in addition to all known project disbenefit risks.</p>	PROBABILITY	VH	★	★	★	★	★	
	H	★		★	★	★	★			
	M	★		★	★	★	★			
	L	★		★	★	★	★			
	VL	★		★	★	★	★			
		VL	L	M	H	VH	IMPACT			
	Ⓓ Permitting Delays	Any necessary environmental permitting processes could take longer than expected, delaying planned improvement projects.	PROBABILITY	VH	★	★	★	★	★	
	H	★		★	★	★	★			
	M	★		★	★	★	★			
	L	★		★	★	★	★			
	VL	★		★	★	★	★			
		VL	L	M	H	VH	IMPACT			
	Ⓔ Construction Staging Risks	Construction staging difficulties could complicate planned improvement projects.	PROBABILITY	VH	★	★	★	★	★	
	H	★		★	★	★	★			
	M	★		★	★	★	★			
	L	★		★	★	★	★			
	VL	★		★	★	★	★			
		VL	L	M	H	VH	IMPACT			
	Ⓕ Work Restrictions	Construction work restrictions, including light or noise restrictions, could complicate planned improvement projects.	PROBABILITY	VH	★	★	★	★	★	
	H	★		★	★	★	★			
M	★	★		★	★	★				
L	★	★		★	★	★				
VL	★	★		★	★	★				
	VL	L	M	H	VH	IMPACT				
Ⓖ Construction Traffic Impacts	Construction work on potential improvement projections could temporarily obstruct and delay traffic along Laguna Canyon Road and on neighboring streets.	PROBABILITY	VH	★	★	★	★	★		
H	★		★	★	★	★				
M	★		★	★	★	★				
L	★		★	★	★	★				
VL	★		★	★	★	★				
	VL	L	M	H	VH	IMPACT				

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Risk Category	Risk Name	Risk Description	Evaluation					
Ownership Risks	Ⓛ Right-of-Way Encroachments and Uncertainty	Numerous right-of-way encroachments exist along the Laguna Canyon Road right-of-way, and all encroachments have not necessarily been recorded by County authorities. These encroachments would have to be addressed by the City after the acquisition of Laguna Canyon Road and could complicate planned improvement projects.	PROBABILITY	VH	L	M	H	VH
	H	L		M	H	VH		
M	L	M		H	VH			
L	L	M		H	VH			
VL	L	M		H	VH			
	VL	L	M	H	VH			
IMPACT								
	Ⓜ ADA Liabilities	Most of Laguna Canyon Road does not feature sidewalks or meet ADA accessibility requirements. Major work along the corridor could trigger ADA requirements, which would be a liability to the City after the City assumes ownership.	PROBABILITY	VH	L	M	H	VH
H	L	M		H	VH			
M	L	M		H	VH			
L	L	M		H	VH			
VL	L	M		H	VH			
	VL	L	M	H	VH			
IMPACT								
Utility Risks	Ⓝ Utility Easement Risks	Easements on private or other non-City-owned property may be necessary for utility undergrounding.	PROBABILITY	VH	L	M	H	VH
	H	L		M	H	VH		
	M	L		M	H	VH		
L	L	M		H	VH			
VL	L	M		H	VH			
	VL	L	M	H	VH			
IMPACT								
	© Utility Service Agreements	Utility undergrounding would require agreement and coordination with utility service providers.	PROBABILITY	VH	L	M	H	VH
H	L	M		H	VH			
M	L	M		H	VH			
L	L	M		H	VH			
VL	L	M		H	VH			
	VL	L	M	H	VH			
IMPACT								
	Ⓟ Utility Undergrounding Safety Risks	Utility relocation can be particularly dangerous, posing a safety risk to utility workers.	PROBABILITY	VH	L	M	H	VH
H	L	M		H	VH			
M	L	M		H	VH			
L	L	M		H	VH			
VL	L	M		H	VH			
	VL	L	M	H	VH			
IMPACT								

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Risk Category		Risk Name	Risk Description	Evaluation						
Roadway Condition Risks	Ⓒ	Roadway Flooding Risks	Laguna Canyon Road is known to experience flooding for a variety of reasons. These flooding issues would become the responsibility of the City after taking control of roadway.	PROBABILITY	VH					
					H				★	
					M					
					L					
			VL							
					VL	L	M	H	VH	
					IMPACT					
	Ⓓ	Pavement Condition Liabilities	As the roadway owner, the City would take over the responsibility of addressing pavement needs on Laguna Canyon Road.	PROBABILITY	VH		★			
					H					
					M					
					L					
					VL					
					VL	L	M	H	VH	
					IMPACT					
	Ⓔ	Drainage Concerns	Drainage issues along the corridor amount to a risk for the owner of Laguna Canyon Road. For example, HDR is currently undertaking a project with Orange County to design a drainage channel to the ocean in Laguna Beach where walls are failing and currently supported by temporary struts.	PROBABILITY	VH					
					H					
					M					
					L		★			
					VL					
					VL	L	M	H	VH	
					IMPACT					
	Ⓣ	Soil or Groundwater Contamination	There are standard issues related to the roadway that need to be remediated either in the PA/ED phase, PS&E phase, or prior to construction of a project along the roadway. These standard issues include the removal/disposal of aerially-deposited lead (ADL), yellow paint and thermoplastic striping, polychlorinated biphenyls (PCBs), and creosote and pentachlorophenol. As the roadway owner, the City would take over the responsibility of contaminant remediation. For additional detail on contamination risk, see <i>Task 1: Cost Analysis</i> .	PROBABILITY	VH			★		
					H					
					M					
					L					
					VL					
					VL	L	M	H	VH	
					IMPACT					
Cost Risks	Ⓤ	Legal Liabilities / Fees	There is a fiscal risk associated with claims and lawsuits involving injuries along the roadway (e.g. trip/fall along the sidewalk, potholes). Although not every claim becomes a lawsuit that reaches settlement, there are still legal fees associated with defending the City as the roadway owner. Litigation can involve very substantial costs if a case involves a fatality accident along the roadway. For additional detail on legal expense risks, see <i>Task 1: Cost Analysis</i> .	PROBABILITY	VH				★	
					H					
					M					
					L					
					VL					
					VL	L	M	H	VH	
					IMPACT					
	Ⓥ	Emergency Road Closure Risks	Laguna Canyon Road has previously been subject to emergency road closures due to natural events such as brush fires. These emergency road closures and associated emergency roadwork assignments would become the responsibility of the City after taking control of roadway. For additional detail on road closure costs, see <i>Task 1: Cost Analysis</i> .	PROBABILITY	VH					
					H					
					M			★		
					L					
					VL					
					VL	L	M	H	VH	
					IMPACT					

RISK EVALUATION SUMMARY TABLE						
PROBABILITY	VH		ⓐ ⓑ ⓓ	Ⓛ Ⓣ	Ⓤ	
	H		Ⓝ	Ⓜ	Ⓚ Ⓠ	
	M	Ⓟ	Ⓜ	ⓐ ⓐ Ⓜ Ⓢ Ⓥ	Ⓨ Ⓩ	
	L	Ⓡ	Ⓢ		Ⓣ	
	VL				Ⓟ	
		VL	L	M	H	VH
IMPACT						

	Risk Name	Risk Category
ⓐ	Safety Disbenefits	Improvement Project Disbenefits
Ⓟ	Corridor Aesthetic Disbenefits	Improvement Project Disbenefits
ⓐ	Travel Time Disbenefits	Improvement Project Disbenefits
Ⓣ	State Agency Cooperation	Political Risks
Ⓨ	Community Engagement	Political Risks
Ⓩ	City Stakeholder Agreement	Political Risks
Ⓚ	Design Uncertainties	Design and Construction Risks
Ⓜ	Permitting Delays	Design and Construction Risks
Ⓡ	Construction Staging Risks	Design and Construction Risks
Ⓜ	Work Restrictions	Design and Construction Risks
Ⓚ	Construction Traffic Impacts	Design and Construction Risks
Ⓛ	Right-of-Way Encroachments and Uncertainty	Ownership Risks
Ⓜ	ADA Liabilities	Ownership Risks
Ⓝ	Utility Easement Risks	Utility Risks
ⓐ	Utility Service Agreements	Utility Risks
Ⓟ	Utility Undergrounding Safety Risks	Utility Risks
Ⓠ	Roadway Flooding Risks	Roadway Condition Risks
ⓓ	Pavement Condition Liabilities	Roadway Condition Risks
Ⓢ	Drainage Concerns	Roadway Condition Risks
Ⓣ	Soil or Groundwater Contamination	Roadway Condition Risks
Ⓤ	Legal Liabilities / Fees	Cost Risks
Ⓥ	Emergency Road Closure Risks	Cost Risks